

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: KAZUMI, et al.
Serial No.: Not Yet Assigned
(Divisional of Serial No. 09/909,872
Filed: July 23, 2001)
Filed: March 4, 2002
For: PLASMA PROCESSING APPARATUS

PRELIMINARY AMENDMENT

Assistant Commissioner for Patents
Washington, D.C. 20231

March 4, 2002

Sir:

Please amend the above-identified application, prior to examination
thereof, as follows:

IN THE SPECIFICATION:

Please add the following new paragraph between the title and the heading
“Background Of The Invention”:

-- This application is a Divisional application of application Serial No.
09/909,872, filed July 23, 2001, which is Divisional application of application
Serial No. 09/732,307, filed December 8, 2000, which is a Divisional application
of application Serial No. 08/979,949, filed November 26, 1997, now U.S. Patent
No. 6,180,019. --.

Please delete the paragraph at page 6, lines 1-8, and substitute therefor the following new paragraph:

-- Means for solving the above-specified problems will be described with reference to Fig. 2. Fig. 2 shows an experimental induction type plasma generating apparatus, used for verifying the present invention. With this apparatus, the methods for reducing the partial removal of the vacuum chamber wall around the plasma generating portion by the plasma and for improving the ignitability of the plasma are examined by changing the way of grounding the Faraday shield and the antenna to the earth. --.

Please add the following new paragraph at page 27, between lines 9 and 10:

-- In Fig. 16, as well as various of the following figures, reference character 2c denotes the side wall of vacuum chamber 2. --.

Please delete the paragraph at page 28, lines 9-20, and substitute therefor the following new paragraph:

-- Fig. 19 shows an eleventh embodiment of the invention. The basic apparatus construction of the present embodiment is identical to that of the eighth embodiment, but what is different from the other embodiments is that magnetic

field generating means 16 is disposed outside the vacuum chamber 1. In Fig. 19, as well as in Fig. 20, reference character 11 is a connector for the interconnecting cable for the RF power supply. The plasma density distribution just above the substrate in the presence of the magnetic field is illustrated in Fig. 25. From the graph showing the plasma density distribution, it is found that the plasma density is higher in the periphery as the magnetic field is increased. Thus, the magnetic field generating means acts as an auxiliary one capable of controlling the distribution. --.

REMARKS

Applicants have amended their specification on the first page thereof, to refer to the applications being relied upon under 35 USC §120 in the above-identified application, consistent with the requirements of 35 USC §120.

Applicants have further amended the specification of the above-identified application consistent with amendments made to the specification in prior application Serial No. 09/909,872.

It is respectfully submitted that these amendments to the specification do not add new matter to the application.

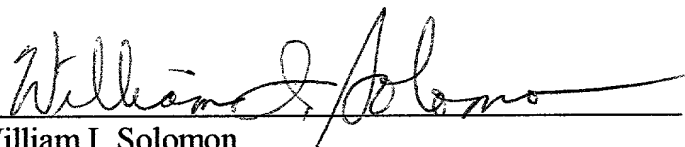
Attached hereto is a marked-up version of the changes made to original specification paragraphs, by the current Amendment. This marked-up version is on the attached pages, the first page of which is captioned “**VERSION WITH MARKINGS TO SHOW CHANGES MADE**”.

To the extent necessary, Applicants petition for an extension of time under 37 CFR § 1.136. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to the Deposit Account No.

01-2135 (Case No. 520.35833VV5) and please credit any excess fees to such
Deposit Account.

Respectfully submitted,

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ATTACHMENT A

VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the Specification:

Please amend the paragraph at page 6, lines 1-8, as indicated below:

Means for solving the above-specified problems will be described with reference to Fig. 2. Fig. 2 shows an [ordinary] experimental induction type plasma generating apparatus, used for verifying the present invention. With this apparatus, the methods for reducing the partial removal of the vacuum chamber wall around the plasma generating portion by the plasma and for improving the ignitability of the plasma are examined by changing the way of grounding the Faraday shield and the antenna to the earth.

Please amend the paragraph at page 28, lines 9-29, as indicated below:

Fig. 19 shows an eleventh embodiment of the invention. The basic apparatus construction of the present embodiment is identical to that of the eighth embodiment, but what is different from the other embodiments is that magnetic field generating means 16 is disposed outside the vacuum chamber 1. In Fig. 19, as well as in Fig. 20, reference character 11 is a connector for the interconnecting cable for the RF power supply. The plasma density distribution just above the

substrate in the presence of the magnetic field is illustrated in Fig. 25. From the graph showing the plasma density distribution, it is found that the plasma density is higher in the periphery as the magnetic field is increased. Thus, the magnetic field generating means acts as an auxiliary one capable of controlling the distribution.